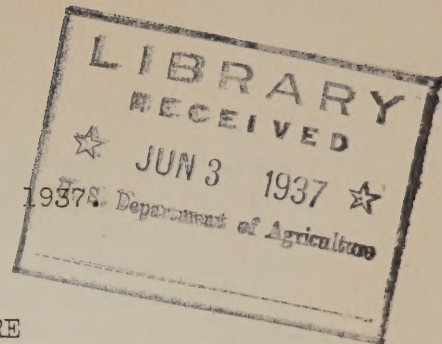


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N755
NCR-State 104

May 19, 1937. Department of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION

PROCEDURE FOR AERIAL MAPPING IN THE STATE OFFICE

GENERAL

There will be established in each State office in the North Central Region a section to be known as the Aerial Mapping Section. The function of this Aerial Mapping Section will be the handling of work in connection with aerial mapping in the North Central Region. Included herein is a general outline of the features of some of this work, as well as instructions covering the use of some forms in connection with this work. Further procedure relative to aerial mapping work will be issued as supplements to NCR-State 104. Forms for use in connection with aerial mapping will be marked as "AP" forms.

GROUND CONTROL

Ground control for aerial photographic enlargement ratio determination in highly sectionized counties must be secured on contact prints in such a manner as to give direct ground control measurements on approximately every third enlargement, i.e., only one enlargement would exist between enlargements directly controlled by ground measurements for which no measurements will be made, except that control measurements shall be made for all enlargements at the beginning and ending of all flight strips, and at the beginning and ending of reflight strips where such strips do not cover the entire county flight line. Control for the beginning and ending of flight line enlargements is necessary in order to establish accurate ratios for all uncontrolled enlargements. The ratio for one intervening uncontrolled enlargement will be established by taking the average of the controlled enlargements preceding and following the uncontrolled enlargement. In case two intervening uncontrolled enlargements exist between controlled enlargements, their ratios will be established by assigning equal apportionments of the difference existing between the controlled enlargements in such a manner as to have the four ratios involved building up, or down, with equal mathematical differences. Control for the beginning and ending enlargements on reflights not covering the entire county flight line is necessary since a reflight will never be made at the same altitude as the original flight. The average of enlargement ratios existing on an enlargement from the original flight and one from a reflight will not give the intervening enlargement its true ratio.

Ground control in comparatively smooth counties and in counties where roads mark section lines should be secured by steel tape or chain measurements, rounded to nearest foot, and showing horizontal distances. Ground control for aerial photographic enlargement ratio determination in rough counties, or that portion of a county classified as rough, should be secured on practically all contact prints covering that rough portion for which enlargements are to be made. Ground control in rough counties should be secured by chain or by stadia, depending on the degree of roughness or other factors, and should show horizontal distances.

At least one measurement on the contact print of approximately one mile in length is necessary for enlargement ratio determination. Such measurements must be perpendicular to the line of flight and centered on the contact prints as far as possible. In case it is necessary to make two or more measurements of slightly shorter distances, such measurements should never be close to the edges of the contact print and should be so selected as to be balanced with reference to the X and Y axes of the contact print.

CONTACT PRINTS AND COUNTY INDEX MAPS

Upon receipt of the contact prints from the flying company, these prints should be inspected to determine whether they meet specification requirements and catalogued on Form No. AP-3, "Contact Print Recording and Inspection." With the use of rough index maps sent with the contact print shipment, orientate those prints necessary for county coverage. This procedure will afford a check on the overlap requirements of the specifications. The county map completely orientated will show the sections covered by each contact print for which enlargements will be made. The following procedure should be followed in making the orientated county map, hereinafter called the county index map.

1. Select a print in one corner of the county the greater part of which should fall outside the county.
2. On such contact print place the section numbers in the center of the sections as accurately as possible.
3. Place names of counties on proper sides of county boundary line where portions of more than one county are shown.
4. Where contact print covers territory wholly within the county, place county name on upper center of contact print.
5. Place names of townships on proper sides of township boundary line where portions of more than one county are shown.
6. Where contact print covers territory wholly within a township, place the name of the township on upper center of contact print immediately under the county name.
7. The same procedure will be followed for township and range numbers.

8. Write in names of towns, rivers, and lakes.

9. All such data should be written on contact prints with red ink for final form. Pencil markings may be used until definite orientation has been effected. The information written on the contact prints should be complete as such information will be transferred to the enlargement. Such data should be neatly written or printed on the enlargement with a red pencil, in such a manner as to show at a glance the name of the county or counties covered, name of township or townships covered, range numbers, township numbers, and the boundary lines or dividing lines of each. Section numbers should be placed in the center of sections and the enlargement scale and a direction arrow should be inserted in the northeast corner of the enlargement.

10. After data have been written on contact prints as heretofore described, the number of the contact print should be written with red pencil or red ink on the sections of the county map covered by that contact print. Such numbers should show at a glance the usable portions of the enlargements, irrespective of overlap or sidelap.

11. Where necessary to make enlargements from two consecutive prints and one or more sections are covered by the two enlargements, both enlargement numbers should be inserted in the section divisions on the map.

12. Should a contact print show portions of a section, (the upper halves of sections 5 and 6 may be on the lower part of contact print 986 and the bottom halves on the upper part of 988), a red line should be drawn through the centers of sections 5 and 6 on the county map in such a manner as to show that divisional coverage. Put contact print number in each fraction of a section so divided.

13. Continue with the flight line across the entire county. The 65 percent overlap will permit the weeding out of many crabbled and tilted prints.

14. Continue with the bordering flight lines taking precaution to see that sufficient sidelap exists.

15. Where there is a doubt as to sufficient overlap or sidelap on enough contact prints to jeopardize field measurements, reflights shall be requested. When requesting reflights one of the two copies should be returned to the flying company, showing the territory to be reflown, together with a list of the contact print numbers, rejected.

The finished county index map will show the number of the contact prints for which enlargements will be made and the sections and portions of sections covered by each. Three such maps will be made, one to be sent to the North Central Division, Washington, D. C., one to be sent to the county with delivery of the enlargements, and one to be retained in the State office.

Upon completion of the selection of contact prints giving county coverage and for which enlargements will be made, the selected set of prints should be taken to the county and State Highway Departments together with the county index map, and all available control should be procured. All sources of available control should be exhausted such as the highway surveys and U.S.G.S. triangulation surveys before selecting points on the contact prints for chaining or stadia control in the counties. Encircle and letter the beginning and ending points between which measurements have been obtained and write the distance in feet on the prints between the two points. Encircle and letter the points between which measurements are to be made by chain or stadia before sending contact prints into the county. Stereoscopic inspection of contact prints covering rough counties will be of considerable help in selecting the most advantageous ground control points. One stereoscope will be sent to each of the State offices. Measurements will be written on the contact print in feet between the points selected. Distances and circles should be written on prints in black ink or pencil. It may be necessary for the chaining party to make some changes in the selected points.

All measuring in the county will be under the supervision of an engineer from the State office, using personnel from the county.

Contact prints will be returned to the State office where distances will be scaled between the measured points and contact print scales established. In setting up enlargement scales set the decimal point of the contact print scale 2 places to the left. The resulting figure will be that to which 6.6 inches will be enlarged, as called for in column 3 of Form No. AP-1, in order to give the enlargement a scale of 660 feet to the inch. All available topographical maps, maps of river surveys, and U.S.G.S. triangulation data will be sent to the State offices from the North Central Division, Washington, D. C.

At least six county maps should be secured for each county to be photographed this year. Three maps will be indexed as described herein, two will be sent to the company who will fly the county and one will be sent to the North Central Division, Washington, D. C., immediately after securing the 6 maps.

USE OF FORM NO. AP-1

Form No. AP-1 will be used on all orders for ratioed photographic enlargements submitted to the North Central Division, Washington, D. C. Form No. AP-1 will be executed in quadruplicate, the original and two copies to be sent to the North Central Division and one copy retained in the State office. One copy will be returned with the shipment of enlargements from the laboratory to the State office.

Contact prints resulting from 1937 flying will be sent to the State office from the laboratory of the flying company. Orders will state the final dimensions of enlargements between collimation marks, or brackets, as computed in the State office from the contact prints. Contact print measurements necessary for enlargement dimension calculations will be made from

center of bracket line to center of bracket line in the case of bracketed prints, and from collimation tip to collimation tip in the case of collimated prints. The North Central Division will make tolerance checks by comparing the dimensions as submitted by the State office with the dimensions of the finished enlargements made in the laboratory. New enlargements will be ordered for counties flown previous to this year. Enlargements ordered for previously flown counties and where enlargements are now on file in the county office will be checked for tolerance in the State office and then sent directly to the county where the data will be transferred from the old enlargements to the new set.

Calculations for ratioed enlargements depend on accurately determined contact print scales and contact print measurements. No attempt should be made to execute Form No. AP-1 until after contact print scale determination has been made to the nearest foot.

The following procedure shall be used in submitting enlargement orders: Stamp or type the State and county code number in upper right-hand corner. Record the order number, sheet number of the order, and the date of the order. Give the name of State and county and enter the designating symbol as found on the contact print. Give the name of flying company, year flown, flying scale, and for whom flown. In case a master glass negative is available, give the dimensions of same between collimation marks or brackets to the nearest five-thousandths of an inch. Make measurements, as described above, on thirty consecutive, or randomly selected contact prints for each county unit set. In the case of bracketed prints, the average of the two sets of length-bracket measurements will govern contact print length. The same procedure will be followed in determining bracketed contact print width. Show contact print markings by placing a check mark after the proper word. Factors for length will be computed by dividing the average length of thirty contact prints, as previously required, by 6.6 (where enlargements are to carry a scale of 660 feet to the inch). The factor for width will be computed in a like manner. Length and width factors will be carried to five places.

All dimensions will be figured to the nearest five-thousandths of an inch with the exception of those required in columns (3), (9), (10), (11), (12), (13), (14), (15), and (16), wherein the figures are to be carried to the nearest hundredth of an inch.

Enlargement ratios now set up through previous years Agricultural Adjustment Administration usage should be carefully inspected. In computing final enlargement dimensions from such ratios, it may be necessary to use both methods given below. Method number one is based upon individual attention to contact prints in arriving at final enlargement dimensions. This method is more laborious, but is more exacting where accurate contact print measurements are made at the same time the contact print scale is first determined on new prints made on standard grade, double-weight photographic paper. Carefully inspect contact prints made previous to this year to determine any excessive amount of shrink. Such determination can be made by comparing contact print measurements with either the master glass negative measurements or the measurements of negatives used in making the prints.

Method number 2 has been devised for rapid calculation of final enlargement dimensions and can be used with safety on all prints made under the 1937 Agricultural Adjustment Administration specifications, wherein high-grade photographic paper is required. As a check on computations, use method number 2 and method number 1 on every fifteenth or twentieth enlargement ordered when method number 1 is used, and use method number 1 and method number 2 on every fifteenth or twentieth enlargement ordered when method number 2 is used. In each case the prevailing method will determine the dimensions of the enlargement ordered.

Column (1) should always be completed if such information is available. Columns (2) and (3) carry information necessary to both methods. Columns (4), (5), (6), (7), (8), (9), and (10) are to be used only when method number 1 is used. Columns (11) and (12) will be used only when method number 2 is used. Columns (13), (14), (15), and (16) will be used by the North Central Division to record tolerance checks on the three copies of Form No. AP-1 sent to the Division. Columns (13), (14), (15), and (16) will be used on the copy retained in the State office for making tolerance checks upon receipt of enlargements. When typing results of the tolerance checks on the retained State office copy, insert two unused No. AP-1 Forms. These two carbon copies will be sent to the laboratory. On these copies, stamp or type the State and county code numbers; type the complete laboratory report, the order number, sheet numbers, and date as shown on the original order, names of State and county, and the designating symbol, and enter the first and last contact print numbers in column (2), in order to facilitate identification of the carbon copies with the original orders on file in the laboratory. Columns (15) and (16) should show a plus or minus figure using the figures in columns (9) and (10) or (11) and (12) as guides. This information is necessary in order to permit the Washington laboratory to make a definite check on humidity effect on photographic paper and correct for same.

The scale of 660 feet per inch will be used on all enlargements to be made this year unless permission has been granted by the Agricultural Adjustment Administration for the use of a different scale due to the flying scale varying greatly from 1:20,000.

Form No. AP-1 has been designed to take care of first method and second method computation of 7" x 9" bracketed prints, 7" x 9" collimation-marked prints, and 9" x 9" collimation-marked prints. When ordering enlargements from bracketed prints, columns (4), (5), (6), (7), and (8), will be used for first method determination, and the enlargement dimensions inserted in columns (9) and (10). When ordering enlargements from 7" x 9" collimated prints, columns (4), (5), and (6) will be used for the first method determination and the enlargement dimensions inserted in columns (9) and (10). When ordering enlargements from 9" x 9" collimated prints, columns (4), (5), and (6) will be used for first method determination and the enlargement dimensions inserted in columns (9) and (10). In the latter case the east to west measurement will be recorded in column (5) as width and the north to south measurement inserted in column (6) as length.

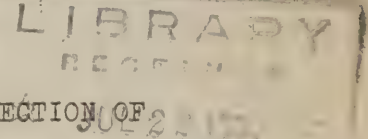
In computing enlargement dimensions by method number one, fill in column (4) by dividing the figures in column (3) by the figure in the heading of column (3) and carrying to the nearest thousandth. Give measurements as called for in columns (5), (6), (7), and (8). Multiply column (4) by columns (7) and (8) in case of bracketed prints, and insert in columns (9) and (10), respectively. Multiply column (4) by columns (5) and (6) in case of collimation-marked prints, and insert in columns (9) and (10), respectively. In computing enlargement dimensions by method number two, multiply the width and length factors by figures in column (3) and insert in columns (11) and (12), respectively.

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Issued June 25, 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION

USE OF "AP" FORMS IN AERIAL MAPPING SECTION OF
THE STATE OFFICE.



In connection with the aerial survey work in the North Central Region there have been transmitted to the field Forms No. AP-1, AP-2, AP-3, and AP-4. Form No. AP-5 is now being printed and will soon be available. Specific instructions for the preparation of Form No. AP-1 are contained in NCR-State 104, and instructions for the preparation of Forms No. AP-3, AP-4, and AP-5 are contained herein. Specific instructions pertaining to the preparation of Form No. AP-2, "Aerial Project Report", are contained on such form and are self-explanatory. The following additional instructions in the preparation of Form No. AP-1 should be carefully followed.

When Form No. AP-1, "Order for Enlargements," is transmitted to Washington, the original shall be signed by a member of the State Committee, and the carbon copies shall be initialed by the person signing the original.

All Orders for Enlargements should be thoroughly checked before they are transmitted to Washington. The names of persons who have checked the data entered on Form No. AP-1 shall be entered in the blank space following the word "Remarks." No entries shall be made in the box entitled "Central Laboratory Report."

Check marks made in checking data and computations in the State Office on Form No. AP-1 must be made in red.

The data entered in columns (9) and (10), and (11) and (12) of Form No. AP-1 shall indicate the distance in inches between center of bracket line to center of bracket line or collimation tip to collimation tip, and shall be of such value as to give the resulting enlargements a scale of 660 feet to the inch.

Form No. AP-3, "Contact Print Recording and Inspection," shall be used for recording all contact prints received in the State office from contractors who have received awards under USDA 10099. Form No. AP-3 shall be executed in quadruplicate. The original and first copy shall be forwarded to the North Central Division, Washington, D. C., one copy shall be forwarded to the contractor from whom the prints were received, and one copy shall be retained in the State Office. The original and all copies of Form No. AP-3 shall be signed by a member of the State Committee.

Form No. AP-3 also shall be executed for all contact prints sent to the State Office from the Central Laboratory, North Central Division, Washington, D. C. Such contact prints shall receive the same attention in the State Office given to prints received from contractors. In cases where Form No. AP-3 is used for contact prints received from the Central Laboratory, such form shall be executed in quadruplicate. The original and first two copies shall be forwarded to the North Central Division and one copy shall be retained in the State Office. The original and all carbons shall bear the signature of a member of the State Committee.

The following procedure shall be used in executing Form No. AP-3:

Enter the name of the State, Identification number, Sheet number, the date contact prints were received at the State Office and from whom received, and the names of the counties covered by the shipment in the proper blank spaces provided for such entries. The first identification number shall be number one in each State and subsequent numbers shall be consecutive for each shipment of contact prints for one county or less. Contact prints for more than one county shall not be listed under the same identification number. Contact prints for one county received on different dates shall not be listed under the same identification number.

When contact prints are received for reflights ordered by the State office, enter the receiving date, sheet numbers, and identification number of the original recordation and inspection, in addition to the data in the preceding paragraph.

Enter the roll number in the first column whenever such number is available. Enter the serial numbers of all contact prints in the second column. Enter the flight line numbers in the third column whenever available. Give a brief analysis of the contact prints under "Remarks" with respect to tilt, crab, elongated shadows, clouds, cloud shadows, sharpness of detail, light streaks, static marks, or other blemishes not permitted by the specifications.

Place an "X" after each recorded contact print for which a reflight will be ordered. Two or more consecutive contact prints not conforming to specifications shall be sufficient cause for the rejection of that particular flight strip, or any portion thereof.

Orders for reflights shall be made on Form No. AP-4, "Aerial Photographic Survey Request for Reflights."

Form No. AP-4 shall be executed in quadruplicate. The original and first copy shall be forwarded to the North Central Division, and one copy shall be retained in the State Office. One copy shall be forwarded to the contractor accompanied by a county map, or a rough draft of the county map on which are marked the sections to be reflown.

Enter in the spaces provided therefore, the name and address of the company, name of State, sheet number of the request, original

recording and inspection sheet identification number, and the date the contact prints are received in the State Office. Enter in the large blank space the description of the territory to be reflown. Be sure to include the name of the county and township as well as township, range and section numbers.

The original and all copies of Form No. AP-4 shall be dated and signed by a member of the State Committee.

Form No. AP-5 "Scale Determination and Ratios for Projections," is for use within the aerial mapping section of the State Office, preparatory to the execution of Form No. AP-1 "Order for Enlargements." Form No. AP-5 shall be executed in triplicate. The original and first copy shall be forwarded to the North Central Division, Washington, D. C., and one copy shall be retained in the State Office.

Copies of Form No. AP-5 forwarded to the North Central Division shall be under the signature of a member of the State Committee, his title, and the date, on the bottom of this form.

Enter in the spaces provided therefor, the name of the State, county, designation symbol of the county, sheet number, date of computation, name of computer, and the name of the person checking the entries on Form No. AP-5.

Enter in column (1) the roll number whenever such information is available.

Enter in column (2) the contact print numbers.

Enter in column (3) type of control used, such as U.S.G.S., highway, river survey, taping, wheel, etc., in such a manner to permit data to be entered in columns (4), (5), (6), (7), (8), and (9) resulting from any one type of control to be entered on the same line.

Enter in column (4) the points, such as AB, CD, etc., as marked on the contact print and between which the control was applied.

Enter in column (5) the scaled distance in inches between such points.

Enter in column (6) the measure distance in feet between such points.

Enter in column (7) the contact print scale which is obtained by dividing column (6), (measured distance in feet) by column (5), (scaled distance on the contact print in inches).

When two or more controls have been established for one contact print and all are centrally located or so located as to be near the center of the contact print and balanced with respect to the X and Y axis of the print, the mean of such scales shall be determined and entered in Column (8).

When more than one control was established on a contact print, set the decimal point two places to the left in all figures entered in column (8) and enter the result in column (9). When only one control was established on a contact print, set the decimal point two places to the left in all figures entered in column (7) and enter the result in column (9).

At the time contact prints are inspected and the county index map made (see NCR-State 104, Contact Prints and Index Maps) a red "E" shall be placed on the contact prints selected for enlargement.

Enter in column (10) a red "E" opposite the print number for which enlargements are to be made.

In some instances it will be impossible to secure control on the contact print for which an enlargement is to be made. In such cases the contact print scale shall be determined by interpolation. Data required in columns (7) and (9) shall be obtained by direct application of control data, or by interpolation, for every contact print covering the county. (See NCR-State 104, Ground Control).

The spacing between lines on Form No. AP-5 is such as to permit three controls to be entered for one contact print serial number. In order to conserve the number of forms used, disregard such spacing when a series of prints has but one control.

A supply of Forms No. AP-5 will be sent to each State Office as soon as they have been printed.

Issued July 17, 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION

JUL 22 1937

Department of Agriculture

METHOD OF ORDERING DUPLICATE AERIAL
PHOTOGRAPHIC ENLARGEMENTS AND THEIR
USE IN TRAINING FARM REPORTERS.

Farm reporters must be adequately trained in the handling of the aerial photographic enlargements, the mechanics of measuring and marking the enlargement in such a manner as to permit accurate calculation of the areas involved, and in reading and analyzing the detail found on the enlargements to permit accurate and expeditious accomplishment of work.

In order that farm reporters may be properly instructed in connection with the use and care of aerial enlargements, we believe it is advisable for the State committee to request a number of duplicate enlargements for use in county training schools. A contact print should be selected on which is located three or four farms near the county office. A number of enlargements of such contact print, depending on the number of farm reporters needed in the county, should be ordered.

The number of duplicate enlargements ordered for any one county should be the minimum needed. By selecting an enlargement having four or more farms conveniently located in relation to one another and near the county office, it will be possible to materially lower the number of duplicate enlargements necessary for instructional purposes. Six or seven duplicates of an enlargement showing four or more farms should suffice for properly training farm reporters in counties having an area from 500 to 600 square miles. A proportionately greater number may be ordered for larger counties. It is necessary that the number of duplicate enlargements be held to the minimum in order that delay may be minimized in shipping regular enlargement orders from the laboratory.

Form No. AP-1, "Order For Enlargements", will be used in ordering duplicate enlargements. The duplicate enlargements needed by the counties for instructional purposes shall be included in the regular order for county enlargements. Enter the figure representing the total number of enlargements to be made from one negative directly following the length measurement of such negative. Such number shall be entered with red pencil and shall be placed on the line dividing columns (12) and (13) when factor measurements have been determined, and on the line dividing columns (10) and (11) when enlargement dimensions have been determined for columns (9) and (10).

Upon receipt of the duplicate enlargements in the State office, a representative of the State committee will conduct a county training school for the farm reporters who will use the aerial enlargements in connection

with the determination of performance. The first part of the county instructional meeting should cover the care and technique of marking aerial enlargements, grasping the enlargement scale, and analyzing the photographic detail of the enlargements.

The second part of the county instructional meeting should provide for a visit to the farms located on the enlargement. Using the duplicate enlargements, each farm reporter should mark the boundary lines of a farm and its field divisions, enter the 1937 field letters, and complete the farm report (Form NCR-113). Sufficient instructions should be given to enable each farm reporter to properly mark the aerial enlargement, make all necessary measurements, and correctly complete the NCR-113. After the first group of farm reporters have been instructed, other farms on the duplicate enlargements should be used in instructing the remaining farm reporters.

Form No. AP-1

In order that each county may have complete photographic enlargement coverage the method used in ordering duplicate enlargements for county instructional purposes should be followed in ordering duplicate enlargements from negatives covering areas lying in two counties, providing no one of the two areas has been covered by a previous order for enlargements.

The figure (2), representing the number of enlargements needed, written and placed as indicated in the fourth paragraph of this Supplement No. 2 will be used when ordering enlargements of negatives having dual county coverage.

A notation as to the number of duplicate enlargements ordered and the reason therefor should be placed after "Remarks" on Form No. AP-1.

It has been necessary in several instances to return Form No. AP-1, "Order for Enlargements", to the State office because of errors found in computations. In order that delay in securing enlargements may be minimized, all figures and computations on Form No. AP-1 should be thoroughly checked for mathematical accuracy before such form is transmitted to Washington.

Issued August 20, 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION

Information Pertaining to Completion of Aerial
Photography for a County and Inspection
of Contact Prints and Index Maps.

It is necessary that this office be advised as soon as possible after all contact prints and index maps for a county have been accepted by the State Committee. In order that information relative to the provisions of paragraphs 18 and 21 of Specifications for Aerial Photography for the North Central Division may be available to us, you are requested to prepare and submit a memorandum, entering the required information in the following form:

"MEMORANDUM FOR MR. CLAUDE R. WICKARD,
Director,
North Central Division.

Re: Completion of Flying and Inspection
of Contact Prints and Index Maps
for _____ County, Ohio.

We are transmitting herewith information pertaining to the completion of aerial photography for _____ County, State of _____, flown by _____ under USDA 10099.

1. Date flying (including reflights made at the discretion of the contractor) was completed for the entire county _____, 1937.
2. Date contact prints and all index maps resulting from original flying (including reflights made at the discretion of the contractor) were received in State office _____, 1937.
3. Date reflights (if any) were ordered by the State office _____, 1937.
4. Date contact prints and all additional index maps required as a result of reflights (ordered by the State office) were shipped by the contractor _____, 1937.
5. Date contact prints and all additional index maps required as a result of reflights (ordered by the State office) were received in the State office _____, 1937.
6. Date of final inspection of contact prints and index maps _____, 1937.

Contact prints and all index maps covering this county have been inspected by our office and found to conform to the General Specifications for Aerial Photography for the North Central Division, and we recommend that payment be made for same."

This memorandum should be prepared in quadruplicate as soon as contact prints and index maps for a county have been inspected and are found to be satisfactory. The original and first two copies should be forwarded to Mr. Claude R. Wickard, Director, North Central Division, attention Mr. Ralph H. Moyer. Such memorandum should be accompanied by another memorandum setting forth the pertinent facts pertaining to the contact prints and index maps for such county. This information will also enable us to accurately maintain our records pertaining to the acceptance of all negatives for each county.

Your cooperation in securing the prompt transmittal of this information in connection with aerial photography is requested, in order that discounts available in connection with vouchers covering aerial photography in each county may be obtained.

Submission of Forms Nos. AP-3, Contact Print
Recording and Inspection, and AP-4, Aerial
Photographic Survey Request for Reflights.

Standard Forms No. 1034, Public Voucher for Purchases, and Services Other Than Personal, are now being prepared by contractors for counties photographed and are being sent to the North Central Division. In some cases these vouchers have come to this office prior to receipt of Form No. AP-3, Contact Print Recording and Inspection. It is impossible to forward these vouchers for payment unless we are in possession of the information entered on Form No. AP-3 and, where reflights have been ordered, on Form No. AP-4. Since vouchers cannot be forwarded without Forms Nos. AP-3 and AP-4, you are urged to have the contact prints and index maps inspected as soon as possible after they have been received in your office, and have Forms Nos. AP-3 and AP-4 prepared immediately after inspection and forwarded to the North Central Division.

Each contact print shall be considered separately and entered on Form No. AP-3, and the inspection analysis entered under "Remarks" and immediately after the contact print number. Contact prints regarded as satisfactory should have an "OK" written under "Remarks" immediately after such contact print numbers.

The form memorandum, "Re: Completion of Flying and Inspection of Contact Prints and Index Maps for _____ County, State of _____", should be prepared and forwarded to the North Central Division as soon as possible after the inspection and acceptance of the contact prints and index maps for the entire county.

We wish to call your attention to the first paragraph on page 2 of Supplement No. 1 to NCR-State 104, issued June 25, 1937. This paragraph reads as follows:

"Form No. AP-3 also shall be executed for all contact prints sent to the State office from the Central Laboratory, North Central Division, Washington, D. C. Such contact prints shall receive the same attention in the State Office given to prints received from contractors. In cases where Form No. AP-3 is used for contact prints received from the Central Laboratory, such form shall be executed in quadruplicate. The original and first two copies shall be forwarded to the North Central Division and one copy shall be retained in the State Office. The original and all carbons shall bear the signature of a member of the State Committee."

1-47
1753
Supplement No. 4
to NCR-State 104

Issued September 7, 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION

Shipping of Photo Enlargements from the
Photographic Laboratory, Washington, D. C.

We have been informed by the photographic laboratory that the high degree of humidity in Washington, D. C., causes expansion of the photo enlargement paper, and that it is necessary that enlargements made in the laboratory have a tolerance check greater than the permitted plus or minus .08 of an inch in order that such enlargements will shrink to that permitted tolerance when acclimated in the less humid atmosphere found in the various States of the North Central Region.

Inasmuch as it is believed there do not now exist satisfactory data pertaining to the behavior of Haloid Press Bromide, H.B.-44 Substance, Linen Ledger Paper, when subjected to various degrees of humidity, and since such data would be necessary in order to establish the tolerance figures on enlargements in Washington, D. C., that would permit shrinkage to the permitted plus or minus .08 of an inch tolerance after acclimation of the enlargements in the less humid air of the States in the North Central Region, the photographic laboratory has been instructed to forward to the States enlargements as checked in Washington, D. C., that have tolerances slightly more than the permitted tolerance.

Enlargements shipped to the States shall be checked in the State office for tolerance upon receipt and rechecked one week later, and the results of such checks entered on Form AP-1. The results of the recheck shall be entered above the results of the first check. The instructions pertaining to the preparation of Form AP-1 as set forth in NCR-State 104, paragraph 2, page 6, beginning with the words "columns (13), (14), (15), and (16) shall be followed, except that such paragraph 2 is hereby amended by deleting the words "These two carbon copies will be sent to the laboratory" and inserting in lieu thereof the words "These two carbon copies will be sent to Mr. Claude R. Wickard, Director, North Central Division, Washington, D. C. Such amendment shall apply to all transmittals of Forms AP-1 from each State to Washington, D. C. If possible, information as to the relative humidity at the place the tolerance check is made should be entered opposite the word "Remarks" in the space provided for such entries by the State office. If a Weather Bureau station is located in the town wherein the State office is located, information pertaining to the relative humidity on the day the tolerance checks were made may be obtained from such station. As soon as the tolerance checks have

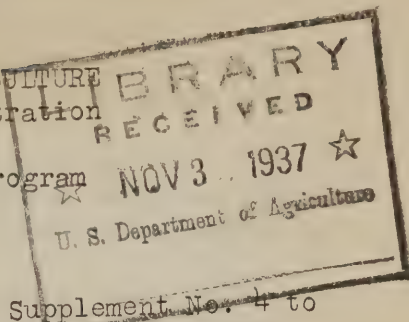
been made and Form AP-1 completed, such form should be transmitted to the North Central Division.

State Committees will use Forms AP-1 for the transmittal of orders for the remaking of all enlargements that do not scale within the allowable plus or minus .08 of an inch tolerance after the recheck has been made.

Issued October 26, 1937

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Adjustment Administration

1937 Agricultural Conservation Program
North Central Division.



NCR. . State-104, issued May 19, 1937, and Supplement No. 4 to NCR-State 104, issued September 7, 1937, are hereby amended as follows:

1. All material in Supplement No. 4 to NCR-State 104, issued September 7, 1937, following the second paragraph is hereby deleted.

2. The second paragraph on page 6 of NCR-State 104, issued May 9, 1937, is deleted and the following is substituted therefor:

Form AP-1, Order for Enlargements.

Column (1) should always be completed if such information is available. Columns (2) and (3) carry information necessary for both methods. Columns (4), (5), (6), (7), (8), (9), and (10) are to be used only when method number 1 is used. Columns (11) and (12) will be used only when method number 2 is used. Columns (13), (14), (15), and (16) will be used by the North Central Division to record tolerance checks on the three copies of Form No. AP-1 sent to the Division. Columns (13), (14), (15), and (16) will be used on the copy retained in the State office for making tolerance checks upon receipt of enlargements.

Recording Tolerance Checks Made on Photographic Enlargements.

Enlargements shipped to the States shall be checked for tolerance in the State office upon receipt and rechecked three days later. The tolerance figure and sign of such figure shall be determined by comparing the scaled dimensions of the enlargement with the dimensions as calculated for the enlargement and entered on Form AP-1, Order for Enlargements. A tolerance figure will be assigned a minus value if the scaled dimension is less than the ordered dimension. A tolerance figure will be assigned a plus value if the scaled dimension is more than the ordered dimension. Care must be exercised to scale enlargements to the nearest one-hundredth of an inch and to assign the proper signs to the tolerance figures.

Tolerance check results shall be entered on Form AP-1 in the following manner:

(1) Copy on a blank Form AP-1, Order for Enlargements, the State and county names, the county designating symbol, print marking, State and county code numbers, order number, sheet number, and the date, exactly as they were entered on the original order for enlargements for the county to be scale checked.

(2) Copy in column 1, Roll Number, the roll numbers exactly as found on the corresponding sheets of the original order for enlargements for the county to be scale checked.

(3) Copy in column 2, Negative Number, the negative numbers exactly as found on the corresponding sheets of the original order for enlargements for the county to be scale checked.

(4) Delete the word "Average" as found in the heading of columns (7) and (8) and type the words "Laboratory Tolerance", one word above the other and enter such words in such a manner that it will be one heading for both columns (7) and (8). The laboratory tolerances as found on the copy of Form AP-1 returned to the State office by the North Central Division shall be typed in these columns.

(5) Delete the word "Enlargement" heading columns (9) and (10) and insert the words "State Office, First Scaling". Width and length dimensions as scaled on the enlargements shall be entered in columns (9) and (10), respectively.

(6) Delete the words "By Factor" heading columns (11) and (12) and insert the word "Tolerance". The width and length tolerances, with proper plus or minus sign, for the first scale check shall be entered in columns (11) and (12), respectively.

(7) Delete the words "Check Measurements" heading columns (13) and (14) and insert "State Office, Second Scaling". The width and length dimensions as scaled on the enlargements three days after the first scaling shall be entered in columns (13) and (14), respectively.

(8) Enter in columns (15) and (16) headed "Tolerance" the width and length tolerances, with proper plus or minus sign, as determined for the second scaling of the enlargements.

(9) Enter above the double line at the head of the columns and directly over columns (9), (10), (11), and (12), the date the first scaling was begun, and the temperature and relative humidity for 8:00 a.m., noon, and 5:00 p.m., for the day this scale check was made. Relative humidity and temperature readings should be made in the room in which the enlargements are filed and checked. Such data shall be entered as follows:

Date	Temperature	8:00 a.m.	Noon	5:00 p.m.
9-13-37	R.H.	40	65	55
		80	40	45

The date and the temperature and relative humidity readings for the three periods of the day as required above shall be entered above columns (13), (14), (15), and (16), for the second scaling of the enlargements.

(10) Enter in red ink at the top of columns (9), (10), (11), and (12) immediately above the figures inserted in such columns, the hour the first scaling was begun.

(11) Enter in red ink at the top of columns (13), (14), (15), and (16) immediately above the figures inserted in such columns, the hour the second scaling was begun.

(12) Enter in red ink between the double spaced entries and in the proper set of columns so it is applicable to the first or second scaling, as the case may be, the hour scaling was stopped and the hour scaling was resumed.

(13) Enter in red ink in the unused space represented by columns (3), (4), (5), and (6), the date on which scaling is resumed and the temperature and relative humidity for the three periods of that day if it is impossible to complete the scaling of the enlargements on the day such scaling was started.

If such data apply to the first scaling, a red line shall be drawn through columns (3) to (12), inclusive, immediately below the final figures of the previous day's scale check entries. The data entered in columns (3), (4), (5), and (6) will be directly above such red line.

If such data apply to the second scaling, a red line shall be drawn through columns (3) to (16), inclusive, immediately below the final figures of the previous day's scale check entries. The data entered in columns (3), (4), (5), and (6) will be directly above such red line.

Tolerance check reports should be completed as soon as possible after the second check. The original and first copy of each report shall be dated, signed by a member of the State committee, and forwarded to the North Central Division, Agricultural Adjustment Administration, Washington, D. C.

All entries, subtractions, and plus or minus signs should be checked and the name of the person responsible for the accuracy of the entries shall be entered in the lower left-hand corner of each sheet.

State committees will use Forms AP-1 for the transmittal of orders to the North Central Division for the remaking of all enlargements of poor photographic quality and for all enlargements whereon the tolerance for the long dimension exceeds .08 of an inch. Reorders shall be submitted for all enlargements whereon the tolerance for the short dimension is .11 of an inch or more. Enlargements whereon the tolerance for the short dimension is either .09 or .10 of an inch shall not be reordered providing the tolerance for the long dimension is such as to give an average tolerance for the long and short dimensions of .08 of an inch or less. In no instance shall special consideration be given enlargement tolerance due to high and low relative humidity readings.

Reorders for enlargements shall be made in accordance with instructions set forth in NCR-State 104, page 4, paragraph 5, and shall carry only the data listed for such reordered enlargements as is contained in the original order for enlargements.

Enter after "Order No." in the upper right-hand corner of Form AP-1 for all reorders, the original order number followed by "Reorder No. ____".

The first reorder number for a county shall be 1, and any subsequent reorder for such county shall be numbered consecutively. Enlargements received on reorders shall be scale checked, scale check reports forwarded to the North Central Division, Washington, D. C., and enlargements reordered in accordance with the instructions set forth herein.

SCALE CHECKING AND RECORDING TOLERANCE CHECKS
MADE ON ENLARGEMENTS ORDERED IN DUPLICATE.

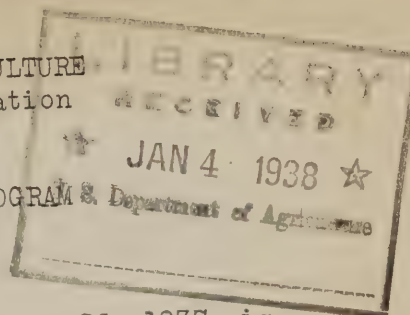
As set forth in Supplement No. 2 to NCR-State-104, paragraph 3, page 2, duplicate enlargements should be ordered from negatives covering areas lying in two counties, provided both counties have been aerially photographed and that the manner in which the bordering flight line has been photographed in the county for which the duplicate enlargements are ordered does not require a different selection of prints for enlargement.

Upon receipt of duplicate enlargements in the State office, they shall be marked "Duplicate" on the reverse side and scale checks shall be made thereon in accordance with the instructions set forth in this Supplement No. 5. Scale check and tolerance figures shall be recorded on the regular tolerance check report by inserting the scaled dimensions and tolerance figures between the double-spaced entries and immediately below the entries made for the first enlargement of like number. Scale checks should not be made on enlargements ordered for instructional purposes.

Issued December 2, 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Adjustment Administration

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL DIVISION



NCR-State 104, Supplement No. 5, issued October 26, 1937, is hereby amended as follows:

1. Supplement No. 5 to NCR-State 104, page 1, fourth paragraph, entitled "Form AP-1, Order for Enlargements," is hereby amended to read as follows:

Form AP-1, Order for Enlargements--Enter in column (1) the roll numbers and the designating symbol or symbols shown on each contact print for which an enlargement is ordered. All roll numbers should be entered in numerical order. Each roll number should be entered only once and ditto marks should not be used. The designating symbol or symbols should be entered in column 1 in line with the print number entered in column 2, "Negative Number." The designating symbol or symbols shall be entered for each print. Ditto marks shall not be used to indicate identical symbols. Inasmuch as three designating symbols appear on some contact prints the roll numbers should be entered far enough to the left in column 1 and in line with each other to permit the entry of three symbol combinations, with one space between each combination, even though the first contact print on the roll for which an enlargement is ordered has but one symbol combination. Enter in column 2, "Negative Number", the contact print numbers for which enlargements are ordered. All contact print numbers within each roll shall be listed in numerical order.

Columns (2) and (3) carry information necessary for both methods. Columns (4), (5), (6), (7), (8), (9), and (10) are to be used only when method number one is used. Columns (11) and (12) will be used only when method number two is used. Columns (13), (14), (15), and (16) will be used by the North Central Division to record tolerance checks on the three copies of Form No. AP-1 forwarded to the Division. Columns (13), (14), (15), and (16) will be used on the copy retained in the State office for recording tolerance checks upon receipt of enlargements.

The request that roll numbers and print numbers within each roll be listed in numerical order with associated designating symbol or symbols has been made by the Aerial Photographic Laboratory, Washington, D. C. Although this procedure will cause considerably more work in the State office, increase the possibility of errors, and decrease the opportunity of detecting errors due to destroying flight-line continuity when reflights have been made, it is believed that by submitting enlargement orders in this form, unnecessary wear on the roll of negatives will be eliminated, the opportunities for making enlargements from the wrong negatives will be decreased, and general laboratory work will be expedited.

The procedure set forth herein relative to entries in columns (1) and (2) shall be followed on all original and supplemental orders and reorders for enlargements. Care shall be exercised in checking all entries prior to forwarding enlargement orders to the North Central Division.

2. Supplement No. 5 to NCR-State 104, page 4, is amended by adding thereto, immediately preceding the heading "Scale Checking and Recording Tolerance Checks Made on Enlargements Ordered in Duplicate" the following:

Disposal of Rejected Enlargements

In accordance with a request made by the Aerial Photographic Laboratory, one-half of all enlargements rejected by the State Committee will be forwarded to Mr. Grover M. Plew, Chief, Aerial Photographic Laboratory, Room 229-A, Old Post Office Building, Washington, D. C. Only enlargements rejected on or after December 1, 1937, should be so forwarded. All enlargements rejected prior to December 1, 1937, and the remaining one-half of the enlargements rejected after December 1, 1937, will be retained in the State office.

After the last tolerance check has been made, enter in red on the white margin of the enlargements to be forwarded to the Aerial Photographic Laboratory the tolerance figures with the proper plus or minus sign as well as the date of last scaling. Such tolerance figures shall be so located as to indicate between which set of brackets or collimation tips the measurement has been made. Thereafter such enlargements should be immediately shipped to the Aerial Photographic Laboratory.

In accordance with another request made by the Aerial Photographic Laboratory, enlargements for shipping should be packed for each county by wrapping them in several thicknesses of heavy paper sealed with tape. Such packages should then be placed in containers which will protect the enlargements while in transit. All containers should be marked as follows:

NOTICE TO CARRIER

Please keep this package away from moisture, excessive heat, and cold.

Form AP-6 shall be executed in quadruplicate for each shipment of rejected enlargements for each county and shall have listed thereon the name of the county, designating symbol, the number of each rejected enlargement included in the shipment, and the reason for rejection entered immediately following the enlargement number. The date entered on the date line in the upper right-hand corner of Form AP-6 shall be the date of shipment. The original shall be retained in the State office and the first copy shall accompany the enlargements. The second copy of Form AP-6 shall be forwarded directly to the Aerial Photographic Laboratory to be receipted and returned, and the third copy shall be forwarded to the North Central Division, Washington, D. C.

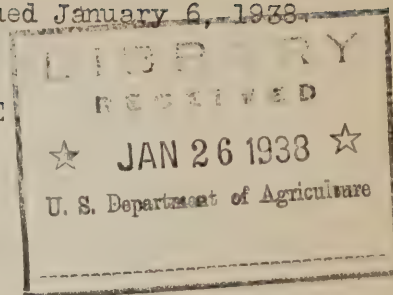
In order that data will be available relative to the action of enlarging paper subjected to various degrees of temperature and differing percentages of relative humidity during aging in the State office, all enlargements rejected prior to December 1, 1937, and all rejected enlargements not forwarded to the Aerial Photographic Laboratory after December 1, 1937, should be scale checked at one month intervals for three consecutive months beginning as soon as possible after receipt of these instructions. Separate tolerance check reports shall be made for the rejected enlargements for each county in accordance with the instructions set forth in NCR-State 104, Supplement No. 5. Such tolerance check reports shall be marked "Tolerance Check Reports for Rejected Enlargements, 1st Report" immediately after the word "Remarks" on Form AP-1. Such AP-1 shall be executed in triplicate. If the report is the second or the third report, the words "2nd report" or "3rd report" shall be properly noted on Form AP-1. The original and second copy of each report shall be forwarded to the North Central Division, Washington, D. C., immediately after the report is prepared. The first copy of such AP-1 shall be retained in the State office.

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7757
Supplement No. 7
to NCR-State 104

Issued January 6, 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL REGION



NCR-State 104, issued May 19, 1937, is hereby amended by inserting, immediately following the third full paragraph on page 5 thereof, the following:

In order that the Aerial Photographic Laboratory may properly prepare reordered enlargements, it is necessary that they know the nature of the defects on the enlargements which were prepared in accordance with the original order and forwarded to the State Committees.

Will you please enter on all reorders for enlargements, in the available space in columns (5) to (10), inclusive, and in line with the proper negative number, the reason or reasons for the rejection of each enlargement requested remade. Entries for each reordered enlargement should include notations similar to the following examples:

"Excess tolerance, length _____, width _____",

"Suggests tilted easel", "Stained print", "Tone--too light",

"Tone--too dark", "Poor definition", and "Halation of brackets",

or other notations of defects serious enough to warrant rejection.

In the case of excessive tolerance, insert in the blank spaces after the words "length" and "width" the amount of such tolerance with plus or minus sign. For example: "Excess tolerance, length -.11, width -.07." Extreme care should be exercised when subtracting the scaled dimensions of the enlargement from the calculated dimensions for such enlargement, in order that the tolerance figure is correct in sign and value.

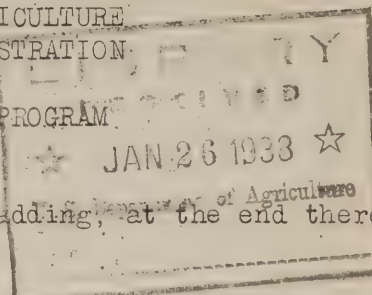
The tolerance check report for the enlargements received for a county should be forwarded to the North Central Division with any reorder for enlargements for such county.

Supplement No. 8
to NCR-State 104

Issued January 15, 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL DIVISION



NCR-State 104 issued May 19, 1937, is amended by adding, at the end thereof, the following:

Instructions for Planimentering Aerial Photographic Enlargements used in Obtaining Complete Crop and Acreage Data and Making Entries and Computations on the Summary of Complete Crop and Acreage Data, Form NCR-130.

A complete set of new aerial photographic enlargements was furnished to each of 20 counties in the ten States in the North Central Region for the purpose of obtaining crop and acreage data for farms not participating in the 1937 Agricultural Conservation Program. The crop and acreage data for farms which did participate in the 1937 Agricultural Conservation Program will be transferred from the enlargements used in determining performance to the new enlargements in the county office, in accordance with the procedure set forth in NCR-111, Supplement No. 6. The fields of the nonparticipating farms will be planimentered in the State office, and the crop and acreage data for both participating and nonparticipating farms will be entered on NCR-130 in the State office.

Planimetering Nonparticipating Farms - The method of planimentering farms which did not participate in the 1937 Agricultural Conservation Program will be the same as was used in planimentering participating farms. The instructions set forth in NCR-111, Part VI, Aerial Measurement Counties, page 46, paragraph 2, through page 47, paragraph 3, will be followed, except that references to NCR-113 will be disregarded. Field acreages will be entered on each field on the enlargement immediately below the symbol designating the crop or land use.

Entering Data on NCR-130 - Upon the completion of planimentering nonparticipating farms, clerks will make the following entries on NCR-130 in Section II:

1. Columns (c) through (f) - Enter on the appropriate line the acreage of each field in the farming unit devoted to the same crop. A separate entry will be made for each field even though more than one field is devoted to the same crop. For example, if three fields in a farming unit, consisting of 30, 40, and 60 acres each, are planted to wheat for grain, these acreages will be entered in columns (c), (d), and (e) on the appropriate line.
2. Column (g) - Enter the acreage total for each crop. In the example above, the entry in column (g) will be 130.

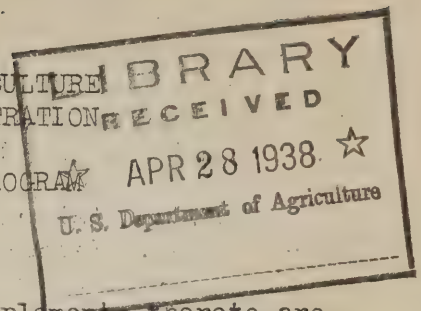
3. Column (h) - Enter the name of any crop planted before July 1, 1937, which failed if such field was replanted before July 1, 1937, to another crop for which the acreage is entered in either column (c), (d), (e), or (f), and indicate the column in which the acreage for such field is entered. The symbol for such failed crop will be obtained from the reverse side of the enlargement opposite the operator's name.
4. Column (g), line 35. - Enter the total of the entries in column (g), lines 1 through 34.
5. Column (g), line 36. - Enter the acreage by which the total acres in the farming unit exceed the entry in column (g), line 35.

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7-1500
Supplement No. 9,
to NCR-State 104.

Issued March 19, 1938,

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

1937 AGRICULTURAL CONSERVATION PROGRAM
NORTH CENTRAL DIVISION.



NCR-State 104, issued May 19, 1937, and supplements thereto are hereby amended as follows:

1. All material in supplement No. 4 to NCR-State 104, issued September 7, 1937, is hereby deleted.
2. All material in supplement No. 5 to NCR-State 104, issued October 26, 1937, is hereby deleted.
3. All material in supplement No. 6 to NCR-State 104, issued December 2, 1937, is hereby deleted.
4. The second, third and fourth paragraphs on page 6 of NCR-State 104, issued May 19, 1937, are deleted and the following is substituted therefor:

On Form AP-1, Order for Enlargements, enter in column (1) the roll numbers and the designating symbol or symbols shown on each contact print for which an enlargement is ordered. All roll numbers should be entered in numerical order. Each roll number should be entered only once unless a contact print shows dual indexing. In such cases, both roll numbers whether identical or different should be entered, single spaced, for such contact print. The designating symbol or symbols should be entered in column (1) in line with the print number entered in column (2). The designating symbol or symbols shall be entered for each print. Ditto marks shall not be used to indicate identical symbols. Inasmuch as three designating symbols appear on some contact prints, the roll numbers should be entered far enough to the left in column (1) and in line with each other to permit the entry of three symbol combinations with one space between each combination, even though the first contact print on the roll for which an enlargement is ordered has but one symbol combination. Enter in column (2), "Negative Number", the contact print numbers for which enlargements are ordered. In some cases, contact prints picturing areas lying in two counties, display dual indexing such as:

WP - 27 - 2461
WN - 27 - 2352

All contact print numbers within each roll, with the exception of one of the print numbers on contact prints displaying dual indexing, shall be listed in numerical order on Form AP-1. On contact prints showing dual indexing, that print number following the designating symbol of the county for which the order is being placed should be entered in numerical order with relation to other contact print numbers on such order. When

the indexing on a contact print requires two lines, as indicated above, all such data shall be entered, single spaced, in columns (1) and (2). Such single spacing shall be confined to columns (1) and (2) only. With the exception of dual indexed prints, all contact print numbers entered in column (2) should be double spaced.

Columns (2) and (3) of Form AP-1 carry information necessary for both methods. Entries should not be made in column (4). Columns (5), (6), (7), (8), (9), and (10) are to be used only when method number one, is used. Columns (11) and (12) will be used only when method number two is used. Columns (13), (14), (15), and (16) will be used on the copy retained in the State office for recording enlargement tolerance check figures upon receipt of enlargements.

The procedure set forth herein relative to entries in columns (1) and (2) shall be followed on all original and supplemental orders and reorders for enlargements. Upon receipt of that copy of Form AP-1 returned to the State committee after the enlargements have been prepared, such copy should be carefully inspected for corrections made by the North Central Division. Such correction will be indicated in green. All corrections made by the North Central Division should be checked and entered on the copies of the orders retained in the State office. One such copy of the order for enlargements for each county should be regarded as the master order and all changes in designating symbols, negative numbers, roll numbers, factors, enlargement dimensions, or entries of any nature, that have been made by the State office, or that should be made as directed by memoranda from the North Central Division, should be promptly entered on such master order copy. In this manner, the enlargement orders prepared from the master copy, will carry all changes and corrections. Care shall be exercised in checking all entries prior to forwarding enlargement orders to the North Central Division.

The original and three copies of Form AP-6, Shipment of Materials, shall be prepared for each original order, supplemental order, or reorder for enlargements. The original shall be retained in the State office files. The first and second copies of Form AP-6 shall be attached to the order for enlargements. The third copy shall be placed in a separate envelope and mailed to the North Central Division. The first copy of Form AP-6 will be receipted and returned immediately upon receipt of the order for enlargements. On such Form AP-6, the words "Agricultural Conservation Committee" preceded by the name of the State, shall be entered after the word "Shipper". The address of the State office will be entered after the word "Address". The date on which the order for enlargements and Form AP-6 will be placed in the mails, should be entered after the word "Date". It is not necessary to make an entry after the words "Shipper's No." The consignee will be Mr. Claude R. Wickard, Director, North Central Division, Agricultural Adjustment Administration, Washington, D. C. The number of packages in each case will be one, and all enlargement orders should be forwarded via mail. Under "Description" should be entered "Order for Enlargements for _____ County, Symbol _____, Order No. _____. No. Sheets in Order _____. Other notations such as are usually included in memoranda accompanying enlargement orders, should be made under "Remarks". All remarks should be followed by the initials of a member of the State committee.

Immediately upon receipt of enlargements forwarded to the State Committee by the laboratory, they shall be sorted according to flight lines within a county and placed in individual flight line stacks. Should there be more than twenty-five enlargements in any one flight line, two or more stacks of enlargements of near equal number, should be made. All enlargements, in stacked form or while being handled in connection with work in the Aerial Mapping Section, shall be exposed to the general currents of the air in the room for a period of seventy-two consecutive hours. Immediately after the seventy-two hour period, the enlargements should be scaled and tolerances determined. All enlargements not within the tolerance range or showing defects as set forth in NCR-State 104, Supplement No. 7, should be reordered.

The tolerance figure and sign of such figure shall be determined by comparing the scaled dimensions of the enlargement with the dimensions as calculated for the enlargement and entered on Form AP-1,

Order for Enlargements. A tolerance figure will be assigned a minus value if the scaled dimension is less than the ordered dimension. A tolerance figure will be assigned a plus value if the scaled dimension is more than the ordered dimension. Care must be exercised to scale enlargements to the nearest one-hundredth of an inch and to assign the proper signs to the tolerance figures.

Tolerance check results shall be entered on Form AP-1 in the following manner:

Copy on a blank Form AP-1, Order for Enlargements, the State and county names, the county designating symbol, print marking, State and county code numbers, order number, and sheet number exactly as they were entered on the original order for enlargements. Enter after the word "Date" the date on which the tolerance report was typed.

Copy in column (1), "Roll Number", the roll numbers and designating symbols exactly as found on the corresponding sheets of the original order for enlargements.

Copy in column (2), "Negative Number", the negative numbers exactly as found on the corresponding sheets of the original order for enlargements.

Enter the width and length dimensions (see definitions of "length" and "width" set forth herein) as scaled on the enlargements immediately after the seventy-two hour period of exposure, in columns (13) and (14), respectively.

Enter in columns (15) and (16), headed "Tolerance" the width and length tolerances, with proper plus and minus sign, as determined from the scaling of the enlargements.

Enter above the double line at the head of the columns and directly over columns (13), (14), (15), and (16), the date scaling was begun and the temperature and relative humidity for 8:00 A. M., 12 noon, and 5:00 P. M. for the day the scale check was made. Such data shall be entered as follows:

Date	Temperature	8:00 A.M.	12 Noon	5:00 P.M.
3-18-38	R.H.	65	72	73
		30	26	28

Enter in red ink at the top of columns (13), (14), (15), and (16) immediately above the figures inserted in such columns, the hour the scaling was begun.

Enter in red ink between the double spaced entries in columns (13), (14), (15), and (16), the hour scaling was stopped and the hour scaling was resumed.

If it is impossible to complete the scaling of the enlargements on the day such scaling was started, enter in red ink in the unused space represented by columns (3) to (10), inclusive, the date on which scaling is resumed and the temperature and relative humidity for the three periods of that day. A red line should be drawn through columns (3) to (16), inclusive, immediately below the final figures of the previous day's scale check entries and such data entered in columns (3) to (10), inclusive, immediately above such red line.

Tolerance check reports should be prepared in triplicate as soon as possible without interruption to the urgent work in the Aerial Mapping Section. The original and first copy of each tolerance check report shall be dated, such date signifying the date of mailing the report, signed by a member of the State committee and forwarded to the North Central Division, Agricultural Adjustment Administration, Washington, D. C.

All entries, subtractions, and plus or minus signs should be checked and the name of the person responsible for the accuracy of the entries shall be entered in the lower left-hand corner of each sheet. Should it be necessary to omit any width or length entries, an explanation of such omissions should accompany the tolerance check report.

State committees will use Forms AP-1 for the transmittal of orders to the North Central Division for the remaking of all enlargements of poor photographic quality and for all enlargements whereon the tolerance for the width of the enlargement exceeds .08 of an inch. Reorders shall be submitted for all enlargements whereon the tolerance for the length of the enlargement exceeds .10 of an inch. Enlargements whereon the tolerance for the length is either .09 or .10 of an inch, shall not be reordered provided the tolerance for the width is such as to give an average tolerance for the length and width of .08 of an inch or less.

Reorders for enlargements shall be made in accordance with instructions set forth in NCR-State 104, page 4, paragraph 5, first sentence, and Supplement No. 7 to NCR-State 104, and shall carry the data listed for such reordered enlargements as is contained in the original order for enlargements exclusive of any data entered in columns (4), (5), (6), (7), and (8). The percent of relative humidity and the degrees of temperature existant at the time of scale checking the enlargements reordered, should be entered after "Remark" on all reorders. Entries should not be made in the Central Laboratory Report box on Forms AP-1.

All original and supplemental orders for enlargements shall be consecutively numbered. Enter after "Order No." in the upper right-hand corner of Form AP-1 for all reorders, the original order number followed by "Reorder No. _____". The first reorder number for a county shall be 1, and any subsequent reorder for such county shall be numbered consecutively. Enlargements received on reorders shall be scale checked, tolerance check reports forwarded to the North Central Division, Washington, D. C., and enlargements reordered in accordance with the instructions set forth herein.

SCALE CHECKING AND REORDERING TOLERANCE CHECKS
MADE ON ENLARGEMENTS ORDERED IN DUPLICATE.

As set forth in NCR-State 104, Supplement No. 2, page 2, paragraph 3, duplicate enlargements should be ordered for negatives covering areas lying in two counties, provided that a flight line is common to both counties and that the county for which the duplicate enlargements are ordered does not require a different selection of prints for enlargement.

Upon receipt of duplicate enlargements in the State office, they shall be marked "Duplicate" followed by the name of the county in which such enlargement will be used, on the reverse side and scale checks shall be made thereon in accordance with the instructions set forth in this Supplement No. 9. Scale check and tolerance figures for such duplicate enlargements shall be recorded on the regular tolerance check report by inserting the scaled dimensions and tolerance figures immediately above the entries made for the first enlargement of like number. Scale checks should be made on enlargements ordered for instructional purposes. Records of such scale checks should not be forwarded to Washington, D. C., but should be kept in the State office files. Enlargements ordered for instructional purposes should not be reordered if not within the tolerance range. All enlargements for instructional purposes should be so marked in the margin of the enlargement.

DISPOSAL OF REJECTED ENLARGEMENTS.

All enlargements rejected because of poor photographic quality shall be immediately forwarded to Mr. Claude R. Wickard, Director, North Central Division, Agricultural Adjustment Administration, Washington, D. C., and one-half of all enlargements rejected because of excessive tolerance shall be eventually forwarded to Mr. Grover M. Plew, Chief, Aerial Photographic Laboratory, Room 229-A, Old Post Office Building, Washington, D. C.

After the tolerance check has been made, enter in red on the white margin of the enlargements to be forwarded to the Aerial Photographic Laboratory, the tolerance figures with proper plus or minus sign as well as the date of last scaling. Such tolerance figure shall be so located as to indicate between which set of brackets or collimation tips, the measurement has been made.

Enlargements for shipping should be packed for each county by wrapping them in several thicknesses of heavy paper sealed with tape. Such packages should then be placed in containers which will protect the enlargements while in transit. All containers should be marked as follows:

NOTICE TO CARRIER

Please keep this package away from moisture, excessive heat, and cold

Form AP-6 shall be executed in quadruplicate for each shipment of rejected enlargements for each county and shall have listed thereon the name of the county, designating symbol, the number of each rejected enlargement included in the shipment. The date entered on the date line in the upper right-hand corner of Form AP-6, shall be the date of shipment. The original shall be retained in the State office and the first copy shall accompany the enlargements. The second copy of Form AP-6 shall be forwarded directly to the consignee to be receipted and returned, and the third copy shall be forwarded to the North Central Division, Washington, D. C.

In order that data will be available regarding the action of enlarging paper subjected to various degrees of temperature and differing percentages of relative humidity during aging in the State office, all rejected enlargements not forwarded to the Aerial Photographic Laboratory, should be scale checked at one month intervals. Separate tolerance check reports shall be made for the rejected enlargements for each county in accordance with the instructions set forth in this Supplement No. 9. Such tolerance check reports shall be marked "Tolerance Check Reports for Rejected Enlargements, 1st Report", immediately after the word "Remarks" on Form AP-1. Such Form AP-1 shall be executed in triplicate. If the report is the second or the third report, the words "2nd report" or "3rd report" shall be properly noted on Form AP-1. The original and second copy of each report shall be forwarded to the North Central Division, Washington, D. C., immediately after the report is prepared. The first copy of such Form AP-1 shall be retained in the State office.

Form No. AP-1 has been designed to take care of first method and second method computation of 7" x 9" bracketed prints, 7" x 9" collimation-marked prints, and 9" x 9" collimation-marked prints. When ordering enlargements from bracketed prints, columns (5), (6), (7), and (8), will be used for first method determination, and the enlargement dimensions inserted in columns (9) and (10). When ordering enlargements from 7" x 9" collimated prints, columns (5), and (6) will be used for the first method determination and the enlargement dimensions inserted in columns (9) and (10). When ordering enlargements from 9" x 9" collimated prints, columns (5), and (6) will be used for first method determination and the enlargement dimensions inserted in columns (9) and (10).

5. NCR-State 104, issued May 19, 1937, is amended by inserting the following between the last paragraph thereof and the first paragraph of the material added to NCR-State 104 by Supplement No. 8, issued January 15, 1938:

One complete set of enlargements should be on file in each county office. However, after one set of enlargements affording complete coverage has been ordered for a county, the orders submitted thereafter should not include enlargements, the entire area of which depicts metropolitan, park, and forested areas, or any strictly non-agricultural area on which there could be no determination of performance. When omitting such enlargements from an order, the symbols and numbers on the negatives from which the omitted enlargements would be prepared, and as listed on the first order for the county, should be entered in columns (1) and (2). Immediately following the negative number for each omitted enlargement, enter the words "forested area", "metropolitan area", or other notation indicating the reason for not ordering the enlargement. Entries should not be made in any of the other columns for those negatives from which no enlargements are to be prepared. In this manner, each order will show the entire list of negatives necessary to give complete county enlargement coverage and will indicate that negative numbers have not been inadvertently omitted.

In order to establish uniform usage in the North Central Division of the terms "length" and "width" as applied to aerial negatives, contact prints, and enlargements, the width of a negative shall be regarded as that distance measured perpendicular to the line of flight, and the length of a negative is that distance measured parallel to the line of flight. Such width and length measurements apply to all negatives, contact prints, and enlargements. For example: the 9-inch dimension of a 7" x 9" contact print is the contact print width, and the 7" dimension is the contact print length. Entries on all orders for enlargements and on all tolerance check reports, should be made in accordance with such definitions.

Relative humidity and temperature readings should be taken in the room in which the enlargements are kept, at 8:00 A. M., 12:00 noon, and 5:00 P. M. of each day. A record of each day's readings should be on file in the Aerial Mapping Section of the State office.

